

of 17 or 18 low, rounded ribs with rather shallow narrower interspaces channeled only near the beak; the minor sculpture, if any existed, has been removed by abrasion but there are faint traces of fine radial striae in the interspaces; the hinge has a very large resiliary pit with a narrow ridge on each side of it; the adductor scar was large and the the margins of the valves was undulated by the external sculpture. Height of right valve, 120; width, 125; length of hinge-line, 70; (semi) diameter, 28 mm. U. S. Nat. Mus. Cat. No. 333042.

A fragment has a width of 147 mm. The nearest relative is perhaps the Pliocene *P. cerrosensis* Gabb, which has twenty-five much stronger ribs with much narrower interspaces, and a less inflated and smaller shell.

PECTEN (PATINOPECTEN) RHYTIDUS n. sp.

Right valve very thick and heavy, little inflated, subcircular, with 13 or 14 narrow ribs, here and there subnodulous or slightly imbricated, with much wider flattish shallow interspaces; the whole surface is finely radiately striated; there is no minor sculpture except the striation; the hinge-line long, straight, the ears subequal with coarse incremental sculpture; resiliary pit deep and wide, with a strong groove on each side; adductor scar large; valve-margins undulated by the external sculpture. Height of shell, 128; width of shell, 130; of hinge-line, 80; (semi) diameter, 12 mm. U. S. Nat. Mus. Cat. No. 333044.

No species of the late Tertiary or Recent fauna resembles this at all closely.

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THE TYPE LOCALITIES OF *LYMNAEA EMARGINATA* SAY AND  
*L. AMPLA* MIGHELS.

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BY OLOF O. NYLANDER, CARIBOU, ME.

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In 1821 Thomas Say described *Lymnaeus emarginatus* (Jour. Acad. Nat. Sci., Phila., II, 170) discovered by Aaron Stone in lakes of Maine. The type is apparently lost and the name of the lakes not given. Walter Wells in his book "The Water-

Power of Maine, Augusta, 1869," states: "The total count of those [lakes] represented upon the maps as connected with our rivers \* \* \* not including the multitude of small ponds \* \* \* is not less than one thousand six hundred and twenty." Of the above lakes 1568 are located within the State. In the "Fourth Annual Report of the State Water Storage Commission," 1913, page 322, the number of lakes and ponds in Maine is given as 2,222.

I have examined many of the Maine lakes, and from Moosehead Lake in the center of the State north to Temiscouata Lake, in Quebec, has been my collecting ground for over 30 years.

I have found specimens of *Lymnæus emarginatus* Say, that seem to compare with Say's description in only one lake; this is located on the east branch of First River between Long Lake and Cross Lake, Aroostook County, in Township XVII, Range 4, about lat. 47° 10' N., and long. 68° 16' W. It is called *Mud Lake or Second Lake*. Prof. F. C. Baker has examined in his studies of the "Lymnæidæ of North and Middle America," a large series of specimens from Mud Lake, and his opinion is that we have the true type in this lake. If students of shells will agree with me, let us call this the type locality of Say's *Lymnæus emarginatus*. For a description of this locality see THE NAUTILUS, Vol. XV, page 127.

Prof. Edward L. Morse visited this locality (Mud Lake) in June, 1859, hoping to rediscover *Limnæa ampla* of Mighels, and gave me a full account of his trip at the meeting of the Boston Malacological Club, Feb. 10, 1913. Prof. Morse in going to this lake, followed the account given by Dr. Mighels, and I followed the published accounts given by both Mighels and Morse. The fact is *Limnæa ampla* Mighels is not found in Mud Lake (or Second Lake).

There is no name on any of the old maps of Mud Lake (or Second Lake). Say's original paper gave the locality: "Inhabits Lakes of Maine," and others say "Lakes in northern Maine (Say)." If northern is correct, Mud Lake is the type locality.

The type specimen of *Limnæa ampla* was lost in the fire that

destroyed the custom house of Portland, Maine, 1854, together with all of Dr. Mighels' specimens.

In the summer of 1842 Alexander Longfellow, assisting in the Boundary Survey, collected in Second Eagle Lake, North lat. 47°, four specimens of *Lymnæa ampla* together with *Physa ancillaria*. This lake is also located on the east branch of Fish River and is at this time known under the name of Square Lake. The specimens collected by Mr. Longfellow and illustrated and published by Dr. Mighels in Boston Journal Natural History, Vol. 4, page 347, pl. 16, came from Square Lake inlet. The great trouble to all workers in natural history is the many changes in the names of places. This might have been avoided if the map makers had not made it their business to change names on every new edition. Specialists and makers of new species in every new edition of their works are changing the names of the species described, each calling them *Scientifically Correct*. What to-day (1920) is called Fish River lakes was called in 1860 Eagle Lakes; what is now Eagle Lake was called Lake Winthrop in 1860. Square Lake of to-day had the name of Lake Sedgwick in 1860, and was known as Second Eagle Lake in 1842. Cross Lake of to-day bore the name of Lake Preble in 1860, and Long Lake was Cleveland Lake in 1860. The French settlers that live in the vicinity of the Fish River Lakes are still using the old names.

*Lymnæa emarginata* Say and *L. ampla* Mighels have also undergone several changes during this period of 100 years, as the following list shows:

- Lymnæus emarginatus* Say, 1821.
- Limnea emarginata* Haldeman, 1842.
- Galba emarginata* Baker, 1911.
- Limnæa ampla* Mighels, 1843.
- Radix ampla* Morse, 1864.
- Lymnæa mighelsi* Binney, 1865.
- Lymnæa (Radix) mighelsi* Dall, 1905.
- Limnæa emarginata* var. *mighelsi* Nylander, 1901.
- Galba emarginata mighelsi* Baker, 1911.

What will it be one hundred years from now? I have some

fine specimens from the original localities that I will exchange with museums and collectors for specimens or publications new to my collections.

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NOTES ON THE NAIAD FAUNA OF THE UPPER MISSISSIPPI RIVER.\*

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BY N. M. GRIER.

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I. On the Anatomy of *Lampsilis higginsii* Lea.

Ortmann (1) is inclined to suspect that this species is merely a local form of *L. orbiculata* Hildreth, the form of very large rivers with muddy bottom, rather than the northern representative of that species, which some consider to be distinctly southern. Examination of the soft parts of *higginsii*, obtained while in the service of the United States Bureau of Fisheries, convinces me of the conformity of *higginsii* with descriptive material given for the genus *Lampsilis* by Simpson (3), and by Ortmann for *L. orbiculata* (2).

The most important point of resemblance between these two species is the common possession of a mantle flap greatly resembling that in *L. ventricosa*, and which obtains its greatest development in the female. As such a structure in *higginsii* seems to have been overlooked, detailed description of it follows. The papillae on the posterior border of the mantle obtain the greater development, those situated anteriorly being quite stunted when present. At the beginning of the posterior half of the mantle edge, the latter thickens to form a grooved flap which shortly attains a width three times that of the adjacent portions of the mantle edge, but which narrows down above the anal opening to a width equal to that of the anterior edge of the mantle. The greatest thickness is obtained at a

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1. Ortmann, A. R., "Notes upon the Families and Genera of Najades". Annals of Carnegie Museum, Vol. VIII, 1912, p. 353.

2. *Ibid.*, "Monograph of the Najades of Pennsylvania, Part III". Memoirs Carnegie Museum, Vol. VIII, No. 1, 1919, p. 324.

3. Simpson, C. T., "Descriptive Catalogue of the Naiades". B. Walker, Detroit, pp. 77-78.